2007 and 2013. Patients with incomplete data and without follow up before treatment, were excluded. All patients received the same RT scheme: 33 daily fractions of 1.64 Gy to intermediate-risk volume and 2.12 Gy to high-risk volume with SIB, reaching 54.12 Gy and 69.96 Gy respectively. Descriptive statistics (frequencies and percentages) were used to report the characteristics of patients, their clinical status, the treatment performed and toxicities reported. The oncologic outcomes were overall survival (OS), loco-regional relapse-free survival (LRRFS), metastases-free survival (MFS) and progression free survival (PFS). These variables were estimated using the Kaplan-Meier method (95% CI level).
Results: The median follow-up was 28.1 months. Median age was 49 years (range, 15 - 78). There was a predominance of men (67.3%), white race (80.8%). The tumors were undifferentiated (WHO III) in 40 patients (76.9%), and EBV positive in 33 (63.5%). There was a majority of locally advanced disease, with 48 patients (92.3%) stage III-IV. Only 5 patients (9.6%) were treated exclusively with RT, while the rest received chemotherapy (CT), mainly concurrent (84.6%). Neoadjuvant CT was delivered to 22 (42.3%) patients, adjuvant CT to 4 (7.7%) patients and 15 (28.8%) patients received neoadjuvant and adjuvant CT. The 1- and 3-year estimation of OS was 98.0% and 85.5%, respectively, while 1 and 3-year LRRFS were 100% and 95.8%, respectively.
Conclusions: The treatment of NPC (predominantly locally advanced) using IMRT-SIB in our institution, offers a rational and feasible alternative of treatment, comparable to results described so far in endemic population.

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Nasopharyngeal carcinoma in a non endemic country: results of a single institution on 187 consecutive patients

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Purpose/Objective: To analyse the outcome of all the patients treated in our Institute for Nasopharyngeal Carcinoma without distant metastasis at diagnosis in a period of 14 years.
Materials and Methods: From January 2000 to December 2013 187 consecutive patients received radiotherapy +/- chemotherapy (neoadjuvant and/or concomitant).
Results: According to TNM classification, UICC 2009, 31% of patients were in stage I-II, 69% in stage III-IV_{a-b}. The predominant histologic pattern was WHO type 3 in 70.6% of patients. At 10 years Overall Survival (OS) has been 65+/-6%, Disease Specific Survival (DSS) 82+/-3%, Loco Regional Control (LRC) 73+/-5%, Distant Metastasis Free Survival (DMFS) 63+/-5%. Many clinical variables (gender, histology, age, T and N classification, Stage, Karnofski index) and others related to treatment (chemotherapy, waiting time from histological diagnosis to first treatment, prolongation of overall radiation treatment time, technique of treatment - 3DCRT vs IMRT-, fractionation), have been analyzed.At univariate analysis OS was statistically related to T and N class, clinical stage, Karnofski index, concomitant chemotherapy, respect of overall treatment time, modality of irradiation. LRC was related to T class, clinical stage, chemotherapy, use of IMRT and fractionation (2.3 Gy/fr vs 2 Gy/fr). The DMFS resulted related to T class, clinical stage, chemotherapy and time between the start of neoadjuvant chemotherapy and radiotherapy. At multivariate analysis, the statistically significant factors at univariate analysis were considered. For OS the final model maintained T class, stage, age, and chemotherapy. LRC was related with stage, chemotherapy and the use of IMRT. DMFS resulted related to the time between start of neoadjuvant chemotherapy and the start of radiotherapy (worse results for length of time superior to 30 days).
Conclusions: In our single experience the introduction of IMRT, frequently associated with IGRT, has been associated with a sharp improvement of LRC at 5 yrs (88+/-4% with IMRT vs 64+/-7% with 3DCRT, p 0.010), even if we consider the association with chemotherapy in various modality (neoadjuvant chemo followed by RTT alone or RTT/chemo, exclusive radio-chemotherapy or radiotherapy alone). Other variables could be involved in this improvement, such as a better local definition with MR co-registration during planning in the last years, or a better staging with the frequent use of CT-PET which can identify cases with distant metastasis at first diagnosis.
The gain obtained with IMRT was also evident in an improvement in OS (82+/-5% vs 70+/-5% at 5 yrs, p 0.038) while no differences were found in DMFS. The analysis is still in progress.

EP-1155

Analysis of loco-regional failures in head and neck cancer after intensity-modulated radiation therapy

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Purpose/Objective: To investigate the correlation between location of loco-regional failures and previous intensity-modulated radiation therapy (IMRT) target volumes in patients with head and neck (H&N) cancer.
Materials and Methods: 65 consecutive patients (44 men; mean age 59.8 years) presenting with biopsy proven failure between May 2011 and April 2014 were retrospectively reviewed. Primary tumour location was nasopharynx (n = 4), oropharynx (n = 23), oral cavity (n = 11), hypopharynx (n = 4), larynx (n = 15), salivary gland (n = 1), primary unknown (n= 1), and sinus (n = 6). Forty-eight patients had primary and 17 post-operative (chemo)IMRT. Primary radical doses of 65-70Gy and 54-56 Gy (30-35 fractions) were delivered to high dose (PTV1) and prophylactic (PTV2) target volumes, respectively, using a SIB-IMRT technique. In the post-operative setting the dose to PTV1 was 60-66 Gy (30-33 fractions). The sites of loco-regional failure (persistent or recurrent disease) were delineated on the diagnostic FDG-PET-CT or CT scans which were co-registered with RT